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CONTRIBUTIONS TO THE ZOOLOGY OF TENNESSEE,
No. 2. BIRDS.

BY SAMUEL N. RHOADS.

It has been thought desirable not only to include in the following annotated list of the avifauna of Tennessee a synopsis of the species observed during my recent trip, but to make it comprehend all the birds of which we have any record as now inhabiting or formerly occurring in the State.¹

I have consulted, among others, the following references, which constitute nearly all the literature relating to the birds of Tennessee that has come under my notice.

Wilson, A.; American Ornithology, 1810-11.

Ord, G.; Sketch of Life of Alex. Wilson, 1828.

Fox, W. H.; Stray Notes from Lookout Mountain, Tennessee; Bull. Nutt. Orn. Club, VII, 1882, p. 191.

Fox, W. H.; Birds of Roane County, Tennessee. Auk, III, 1886, p. 315.

Lemoyne, —; Notes on Birds of the Great Smoky Mountains, Tennessee. Orn., Oologist XI, 1886, pp. 115, 131, 149, 163, 179.

Langdon, F. W.; August Birds of the Chilhowee Mountains, Tennessee. Auk, IV, 1887, p. 133.

Hasbrouck, E. M.; On the Ivory-billed Woodpecker and Carolina Paroquet. Ank, VIII, 1891, pp. 183, 378.

Dr. C. Hart Merriam has generously given me free use of manuscript notes on the birds observed by him in the valley of the Little Tennessee, opposite Chilhowee Mountain, July 29, 1887; also his notes on the birds observed at Athens, McMinn County, July 23 to 27, 1887.

In my quotations from these and from the papers listed above I have only made use of such notes as would be of value in supple-

¹ The reader is referred to the first paper of this series, pages 376 to 332 of the Proceedings, for an itinerary of the author's trip through Tennessee and a brief synopsis of the zoo-geography of the State.

menting or confirming my own, not undertaking to make the references compendious save for rare or little known species.

For a most valuable and interesting series of notes from West Tennessee I am indebted, to my correspondent, Mr. Benjamin C. Miles, of Brownsville, an old resident, acute observer of nature and enthusiastic sportsman. Through his generous efforts I am able to put on a satisfactory basis the status of several birds which must otherwise have been omitted from this list, and can present several facts relating to the history of bird extermination in that part of the Mississippi Valley, which are of great interest. It is my hope that this paper, the first attempt to give the public a resumé of the ornithology of a long neglected commonwealth, may inspire her people to a desire for something better in this line of educational work.

The entire collection of Tennessee birds brought back to the Academy only numbers sixty skins, no attempt being made to secure any but the rarest species, or others for purposes of identification. The names of species of which there are specimens in this collection are preceded by an asterisk.

The whole number of species and subspecies given in the following list is 214. Of these 10 are of doubtful record or identity, although they all belong to the Tennessee fauna.

Dr. Fox's list records 116 species and subspecies of Tennessee birds. To this add 10 species recorded by Lemoyne, viz.: *Accipiter velox*, *Aquila chrysaetos*, *Falco peregrinus anatum*, *Pandion haliaetus carolinensis*, *Syrnium nebulosum*, *Vireo solitarius alticola*, *Helminthophila chrysoptera*, *Dendroica caerulescens*, *Sylvania canadensis* and *Parus atricapillus*, and to this again add four, viz.: *Ampelis cedrorum*, *Dendroica pensylvanica*, *Dendroica caerulea* and *Dryobates villosus* recorded in Langdon's list, and we have 130 species and subspecies. To this may be added those recorded by Wilson, viz.: *Elanoides forficatus*, *Conurus carolinensis*, *Helminthophila ruficapilla* and *Helminthophila peregrina*, making the total number recorded previous to the present list, 134.

Order PYGOPODES.

Family PODICIPIDÆ.

Genus COLYMBUS Linnæus.

1. *Colymbus holboëlli* (Reinh.). Holboëll's Grebe.

A bird which I found lying on a stump in Reelfoot Lake almost certainly belonged to this species. It had evidently been laid there by a gunner the previous winter and was in a badly decomposed state, but the long, slender bill and large size were characteristic enough for identification.

Genus PODILYMBUS Lesson.

2. *Podilymbus podiceps* (L.). Pied-billed Grebe.

Observed at Samburg. It is not unlikely that they breed in that region.

Family URINATORIDÆ.

Genus URINATOR Cuvier.

3. *Urinator imber* (Gunn.). Loon.

Mounted specimens were seen on several occasions, some of which were undoubtedly taken in the State, though I did not take pains to verify the occurrence. Owing to the absence of lakes or ponds in the loftier eastern mountains it is not probable that the Loon breeds anywhere in Tennessee. Lauderdale and Haywood Counties, in winter, B. C. Miles.

4. *Urinator lumme* (Gunn.). Red-throated Loon.

I am under the impression that a pair of this species, in the possession of Mr. Schmidt of Memphis, were taken in the State, but as a number of birds in his collection were brought from a locality in Arkansas on the opposite side of the Mississippi, the record is doubtful.

Order LONGIPENNES.

Family LARIDÆ.

Genus LARUS Linnæus.

5. *Larus argentatus smithsonianus* Coues. Herring Gull.

Mounted specimens in Memphis. Reports of a large gull at Reelfoot Lake during spring migration must refer to this bird.

It winters along the Mississippi below St. Louis. Mr. Miles refers to a gull which he has seen on the Mississippi, "size of a

pigeon with very long wings," which probably refers to the Ring-billed Gull *L. delawarensis*.

Family RYNCHOPIDÆ.

Genus RYNCHOPS Linnæus.

6. *Rynchops nigra* (L.). Black Skinner.

A specimen was found dead in Obion County after a severe storm by Mr. J. A. Craig, who gave me an account of it.

Order STEGANOPODES.

Family ANHINGIDÆ.

Genus ANHINGA Brisson.

7. *Anhinga anhinga* (L.). Snake Bird, Anhinga.

This bird is found about Memphis and it is probable that it occurs on Reelfoot Lake, though I was unable to identify it among the numerous "Water-turkeys" frequenting the Lake, that name being applied to both this species and the Cormorant. There is a Cypress swamp about four miles from Samburg across the lake in which a "Turkey Roost" has existed for a long period, but which has been practically abandoned because of the destruction of the young birds, for bait, by the fishermen. The nests are built in the tops of the tallest cypresses and this fact seems to prove pretty conclusively that the Anhinga bred there, though it is not impossible that the Cormorants have adopted the same rookery and nesting sites in preference to their usual habitations among the brushes on the lake shore. Haywood and Lauderdale Counties, nesting in Mississippi bottoms; Miles.

Family PHALACROCORACIDÆ.

Genus PHALACROCORAX Brisson.

8. *Phalacrocorax dilophus floridanus* (Aud.). Florida Cormorant.

9. ? *Phalacrocorax mexicanus* (Brandt). Mexican Cormorant.

Cormorants are quite abundant at Reelfoot Lake. Among the commoner species (*P. d. floridanus*) I observed a few, which, by their solitary and seclusive habits, light coloration and smaller size were probably the Mexican bird, and previous records of *mexicanus* on the eastern shore of the Mississippi as far north as Cairo, Illinois, give color to this supposition. Haywood and Lauderdale Counties; Miles.

Family PELECANIDÆ.**Genus PELECANUS.**

10. *Pelecanus erythrorhynchos* (Gmel). White Pelican.

Seen occasionally along the valley. A mounted specimen shot at Samburg, in the possession of a hotel keeper in Union City, was examined.

Order ANSERES.**Family ANATIDÆ.****Genus MERGANSER** Linnæus.

11. *Merganser americanus* (Cass.). American Merganser.

Two were seen on the lake near Samburg. This and the Red-breasted are probably included in Mr. Miles "Shell Drake" records for Haywood and Lauderdale Counties.

Genus LOPHODYTES Reichenbach.

12. *Lophodytes cucullatus* (L.). Hooded Merganser.

One seen on Tennessee River near Chattanooga. It most likely breeds in the State. Probably one of the three kinds of "Summer Ducks" mentioned by Mr. Miles as breeding in trees in Haywood County is this species.

Genus ANAS Linnæus.

13. *Anas boschas* L. Mallard.

Abounding in winter in the Mississippi Valley. Haywood and Lauderdale Counties; Miles. Memphis and Reelfoot Lake; gunners.

14. *Anas obscura* Gmel. Black Duck.

Mounted specimens at Memphis. Haywood and Lauderdale Counties; Miles.

15. *Anas discors* L. Blue-winged Teal.

A flock of eight fed regularly in a little slough near Samburg during my sojourn there.

Other pairs were seen on the lake and it is possible they were summer residents. Roane County, migrant, Dr. W. H. Fox. Haywood and Lauderdale Counties; Miles.

16. *Anas carolinensis* Gmel. Green-winged Teal.

Reported to me by the gunners. Stuffed specimens seen at Memphis. Haywood and Lauderdale Counties; Miles.

17. *Anas strepera* L. Gadwall.

Mounted specimen at Memphis. This is evidently the duck "No. 2," to which the following allusions are made by Mr. Miles: "As to Summer Duck [there are] 1 Wood Duck; 2 [a duck] said to nest on ground, seen here [Haywood County] at all seasons—size of Teal; male and female very similar, marked like female Mallard; heard them called young mallard—seen and shot them myself for forty years; barely fit to eat."

18. *Anas americana* Gmel. Baldpate.

Mountain specimens examined, presumably from near Memphis. Haywood County; Miles. This name is also applied to the Bufflehead. Mr. Miles does not think he ever saw the true Baldpate.

Genus *SPATULA* Boie.

19. *Spatula clypeata* (L.). Shoveller.

Specimen in Mr. Schmidt's collection. Remains of one at Samburg. "Killed one several years ago," Miles.

Genus *DAFILA* Stephens.

20. *Dafila acuta* (L.). Pintail.

Likewise found in Mr. Schmidt's collection of mounted game. Haywood and Lauderdale Counties; Miles. A female killed the first week in March, 1887, by Mr. Miles, contained a fully developed egg.

Genus *AIX* Boie.

21. *Aix sponsa* (L.). Wood Duck.

Noted all across the State, where it is a summer resident.

Genus *AYTHYA* Boie.

22. *Aythya americana* (Eyt.) Redhead.

Mounted specimens at Memphis. Haywood and Lauderdale Counties; Miles.

23. *Aythya vallisneria* (Wils.). Canvas-back.

Haywood and Lauderdale Counties; Miles. Called "Fall Duck" in West Tennessee; "common twenty years ago, now not seen."

24. *Aythya marila nearctica* Stejn. American Scaup Duck.

Mounted specimens at Memphis. "Have seen, I think, and heard called Canvashack," Miles.

25. *Aythya affinis* (Eyt.). Lesser Scaup Duck.

One found dead at Samburg.

26. *Aythya collaris* (Donov.). Ring-necked Duck.

Under the name, "Fall Duck," Mr. Miles contributes the following notes: "Only seen September to November or December; for eating excelled by none save partridge [Duck]. In the fall of 1875 killed about thirty on different hunts—have not seen it in ten years." The name "Fall Duck" is also applied to this bird in Minnesota. I think Mr. Miles has confounded it somewhat with the Canvasback.

Genus *GLAUCIONETTA* Stejneger.

27. *Glaucionetta clangula americana* (Bonap.). American Golden Eye.

Mr. Miles sent me a description of one of these Ducks, which he killed several years ago near Brownsville. Since then he verified his identification by the figure and description of this species in Mr. Chapman's book, *Birds of Eastern North America*. It may be stated that other species, whose identification rests on Mr. Miles' authority, have been confirmed by him in the same manner.

Genus *CHARITONETTA* Stejneger.

28. *Charitonetta albeola* (L.). Buffle Head.

Specimens in mounted collection of Mr. Schmidt. This bird, Mr. Miles informs me, is called "Baldpate" by the gunners in his region.

Genus *CLANGULA* Leach.

29. *Clangula hyemalis* (L.). Old Squaw.

Respecting this species Mr. Miles says: "Have seen once."

Genus *ERISMATURA* Bonaparte.

30. *Erismatura rubida* (Wils.). Ruddy Duck.

Mounted specimens examined. Mr. Miles describes the "Partridge Duck," by which name alone it is known to the gunners of West Tennessee. This name is not to be found in Trumbull's book. Mr. Miles has killed them in Haywood and Lauderdale Counties in February, November and December, and says: "Not common here at any time, but always known." In a subsequent letter he fails to identify his "Partridge Duck" with this or any other species described in Mr. Chapman's *Ornithology*. I continue to think, however, that it is the Ruddy Duck.

Genus **CHEN** Boie.31. *Chen hyperborea*? Snow Goose.

A Snow Goose, presumably the lesser variety, was seen during the winter of 1893-94, in Haywood County, by Mr. B. C. Miles. It remained there all winter in the company of a flock of Canada Geese.

Genus **BRANTA** Scopoli.32. *Branta canadensis* (L.). Canada Goose.

Soon after my arrival at Samburg I was surprised to hear the honking of a flock of wild geese. The noise continuing I was impressed by its resemblance to that made by the Canada Goose, and asked my landlord what it meant, as it seemed to proceed from the mainland instead of the lake. He told me it came from a flock of Canada Geese, which had been raised some years previously from a set of eggs taken on the lake.¹ A few days later I came across the birds in a little meadow behind the village and found them to be exactly as represented. Long familiarity with man had completely reversed their natures. So far from showing alarm at my approach they greeted me boisterously, and, led by a large gander, advanced to meet me with outstretched necks and a chorus of defiant notes. This gave me a fine opportunity to determine that they were typical *canadensis*, and at the same time test the strength of a wing-shot from the enraged gander as he danced around for a flank movement while I was making advances upon his family. Strange to say, these geese never showed any disposition to wander beyond the village limits, though they had free access to the lake, either by walking or by swimming down Indian Creek. Mr. H. B. Young, who has fished and trapped in this region for many years, gave me some interesting notes on the habits of these birds. Old residents agree that twenty years ago not a goose remained to breed in that country. At the present time several pairs, perhaps as many as twenty, nest there every season, and two or three sets of eggs are yearly transferred from their care to that of domestic fowls.

At Reelfoot Lake the goose nearly always builds in the top of a blasted tree over the water, sometimes nesting as high as fifty feet or even higher. When the young are hatched the gander soon gets notice of it and swims around the foot of the tree uttering loud cries.

¹ See L. O. Pindar. Auk. III, 1886. p. 481, for a previous record.

On a signal from mother goose he redoubles his outcries and, describing a large circle immediately beneath the nest, beats the water with his wings, dives, paddles and slashes about with the greatest fury, making such a terrible noise and commotion that he can be heard for several miles. This effectually drives away from that spot every catfish, spoonbill, loggerhead, hellbender, moccasin, water-snake, eagle, mink and otter that might take a fancy to young goslings and into the midst of the commotion, mother goose, by a few deft thrusts of her bill, spills the whole nestful. But a few seconds elapse ere the reunited family are noiselessly paddling for the shores of some secluded cove with nothing to mark the scene of their exploits but a few feathers and upturned water-plants and above them the huge white cypress with its deserted nest.

"Nearly every summer young geese were captured at Open Lake, in Lauderdale County, but they never breed there now, I hear."
B. C. Miles.

33. ?*Branta nigricans* (Lawr.) Black Brant.

I have the following from Mr. Miles. "We have the Black-breasted Brant, one of which I killed many years ago." Whether this was *nigricans* or our eastern *berniola* is uncertain. Judging by the name used by Mr. Miles and the fact that *nigricans* is often taken in the Mississippi Valley, it was very likely the former.

Genus *OLOR* Wagler.

34. *Olor columbianus* (Ord). Whistling Swan.

35. *Olor buccinator* (Rich.). Trumpeter Swan.

Swans are now rather rare at Reelfoot Lake. A few were seen the present (1895) spring, but which species it is difficult to state. That both species are likely to pass along the Mississippi Valley is sufficient reason for not omitting *columbianus*, which is the rarer of the two in that region.

Mr. Miles writes: "The Swan was formerly quite plentiful here, though I doubt if one has been seen in this or Lauderdale County, on the water, in ten years."

Order HERODIONES.

Family ARDEIDÆ.

Genus *BOTAURUS* Stephens.

36. *Botaurus lentiginosus* (Montag.). American Bittern.

Two of these birds were killed (presumably in Haywood Co.) by

Mr. B. C. Miles, "in broom sedge on a hill." Mr. Miles writes:—"I am certain he does not breed here."

Genus **ARDETTA** Gray.

37. *Ardetta exilis* (Gmel.). Least Bittern.

Mounted specimens in Mr. Schmidt's collection.

Genus **ARDEA** Linnaeus.

38. *Ardea herodias* L. Great Blue Heron.

Becoming a rare bird in Tennessee. A few mounted specimens were seen. Living birds were noted at Samburg, Memphis, Raleigh and Harriman. Dr. Merriam notes one July 29, 1887, in the valley of the Little Tennessee. Haywood and Landerdale Counties; Miles.

39. *Ardea candidissima* Gmel. Snowy Heron.

Two or three mounted specimens examined. "Seen in flocks of 12 or 15, apparently on passage and again singly"; Miles.

40. *Ardea virescens* L. Green Heron.

Observed all across the State. Dr. Fox and Mr. Langdon both record it.

Genus **NYCTICORAX** Stephens.

41. *Nycticorax nycticorax nævius* (Bodd.). Black-crowned Night Heron.

I did not see this species, but heard one at night at Greeneville. Dr. Fox records it from Roane County. Its apparent absence from western Tennessee is unaccountable to me. Mr. Miles never saw one there.

Order **PALUDICOLÆ**.

Family **GRUIDÆ**.

Genus **GRUS** Pallas.

42. *Grus americana* (L.). Whooping Crane.

43. *Grus mexicana* (Müll.). Sandhill Crane.

Respecting these Mr. Miles writes:—"All the cranes you describe, save the red head, have seen in last 25 years, and my friends have killed them up to ten years since. All are [were] on flight." The words, "save the red head" apply to breeding males of *G. mexicana* which Mr. Miles has evidently not seen. It is probable that his remarks apply also to the little Brown Crane, *G. canadensis*.

Genus **RALLUS** Linnaeus.

44. **Rallus elegans* Aud. King Rail.

One was taken alive in the office of the Rossmore Hotel, Chattanooga, during my stay there. It was apparently a breeding bird.

Genus **PORZANA** Vieillot.

- 4 5. *Porzana carolina* (L.). Sora Rail.

Abundant around Reelfoot Lake, where, by its noise and actions, it seemed to be breeding.

A specimen was taken and another seen near Bellevue on the 20th of May in a small upland swamp.

Genus **GALLINULA** Brisson.

46. *Gallinula galeata* (Licht.). Florida Gallinule.

This is without much doubt the "Lead-colored Dumpy Duck" which Mr. Miles includes among the species which breed in his region. He says it is "rarely seen now, but common 20 years since—not fit for table," etc. He does not confound this with the Coot, which he describes (l.c.) as distinct.

Genus **FULICA** Linnæus.

47. *Fulica americana* Gmel. American Coot.

Abundant on Reelfoot Lake where they breed. Reported also from the interior; Nashville. Several in the city park at Memphis. Roane County; Fox. Under the name "Didopper," Mr. Miles gives a careful and accurate description of this bird, stating it to be common in all waters. He has killed them on flats several hundred yards from water.

Order **LIMICOLÆ**.Family **SCOLOPACIDÆ**.Genus **PHILOHELA** Gray.

48. *Philohela minor* (Gmel.). American Woodcock.

Reported from several points, and specimens examined, but not seen in the flesh. Roane County; Fox. More numerous in migrations in Haywood County. "Very scarce of late years, though even now they nest with us."—Miles.

Genus **GALLINAGO** Leach.

49. *Gallinago delicata* (Ord). Wilson's Snipe.

Noted at Samburg and Memphis. Fox says they are abundant in Roane County during spring migrations. "In large numbers some years and in others not at all," in Haywood County. "A few, I have heard, breed here, never saw a nest."—Miles.

Genus **EREUNETES** Illiger.

50. *Ereunetes pusillus* (L.). Semipalmated Sandpiper.

Four or five sandpipers were seen on the shores of a rocky pond

on South Harpeth river in the northern corner of Williamson County. They were very tame, being gorged with the small mollusks (*Strepomatidae*) abounding on the half-exposed rocks, and I feel assured of the correctness of my identification. This is probably the species seen in company with Wilson's plover in Haywood County by Mr. Miles.

Genus TOTANUS Bechstein.

51. *Totanus melanoleucus* (Gmel.). Greater Yellow Legs.

One was seen in company with the sandpipers above noted. Another was heard at Samburg and stuffed specimens noted at Memphis.

52. *Totanus solitarius* (Wils.). Solitary Sandpiper.

Observed at Samburg, Memphis, Raleigh, Nashville and Bellevue. Noted in spring in Roane County by Fox and in the Chilhowee Mountains in late August by Langdon.

The late date at which I observed a pair near Bellevue (May 20th.) would indicate that they do not go far out of the State to breed.

Genus BARTRAMIA Lesson.

53. *Bartramia longicauda* (Bechst.). Bartramian Sandpiper.

I did not observe this species, though I fancied I heard it passing over in West Tennessee. It is doubtful that it breeds at all in the exact localities I explored, but owing to its peculiarly local preferences, will no doubt be found to summer in some of the country *en route*. Dr. Merriam observed five plover flying over Athens, McMinn Co., "which seemed to be this species."

Genus ACTITIS Boie.

54. *Actitis macularia* (L.). Spotted Sandpiper.

Numerous all over the State below 3,000 feet elevation, but rarer among the mountains.

Genus NUMENIUS Brisson.

55. *Numenius longirostris* Wils. Long-billed Curlew.

Stuffed specimens seen at Memphis.

Family CHARADRIIDÆ.

Genus ÆGIALITIS Boie.

56. *Ægialitis vocifera* (L.). Killdeer.

Seen at Nashville, Bellevue, Chattanooga, and Johnson City. Roane Co., Fox. Not noted in West Tennessee; Miles.

57. *Ægialitis semipalmata* Bonap. Semipalmated Plover.

58. *Ægialitis meloda circumcineta* Ridgw. Belted Piping Plover.

One or both of these species are alluded to by Mr. Miles as Ring-neck Plovers, with a call note "Pee, Pee," which remain "a few days in spring and fall," in company with another species without the ring. The latter was probably a Sandpiper, *Ereunetes*.

Order GALLINÆ.

Genus **COLINUS** Lesson.

59. *Colinus virginianus* (L.). Bob White.

In no part of the United States have I seen our eastern Quail so abundant as it was in West and Middle Tennessee. It was also numerous in the mountains, a pair being seen on Roan Mountain just below the fir belt at a height of nearly 5,000 feet.

Genus **BONASA** Stephens.

60. *Bonasa umbellus* (L.). Ruffed Grouse.

Seen at Sawyer's Springs, Harriman, Allardt, Johnson City and Roan Mountain. In my experience I would say this bird was rare in all localities. Fox says "rather common in the mountains" of Roan Co. Langdon saw one on Mt. Nebo. Lookout Mountain; Fox

Genus **MELEAGRIS** Linnæus.

61. *Meleagris gallopavo* L. Wild Turkey.

The Turkey exists in considerable numbers in secluded parts of the Cumberland plateau and the Great Smoky Range. It was reported to me at Sawyer's Springs, Allardt, and Roan Mountain, but I did not see any. Roan Co., Fox. Chilhowee Mts., Langdon.

Mr. Miles informs me that in Haywood County it is a rather scarce bird but in the last few years it seems to be "on the increase." Continuing, he writes: "In 1891 saw a drove numbering at least forty, this in February, and know of at least ten broods now . . . in the county. Last year there were killed about forty that I saw or heard of."

Genus **ECTOPISTES** Swainson.

62. *Ectopistes migratorius* (L.). Passenger Pigeon

The general verdict of Tennesseans regarding this bird is in line with that of other parts of the country. They are rarely seen, some dating the last occurrence of the species in Tennessee back nine years.

For the best account of the disappearance of this celebrated bird in Tennessee, I am again indebted to Mr. Miles; he says: "Wild Pigeons last visited our section [Brownsville] in numbers in the year 1881, but were not as numerous as about eight years before — I remember that I remarked then they were depleted. In the fall of 1893, Mr. Riddick of this town killed one of a flock of eight, five miles from here—the last I know of being in the county. The first I remember of them must have been in the year 1851, when I was five years old. They roosted that fall ten miles from here and about a mile from our home. Permission was given me to go with the negroes to the roost, and I well remember one of them put me in a cotton hamper and carried me on his shoulders, and how scared I was at the noise when we arrived—however, we got our bags and baskets full; killed them with poles—and got back early. That was my first taste of sport and I have been a sportsman ever since. As near as I can recall the dates, we had them in 1853–1855—that year I had a gun and shot them in Carroll County, this State. In 1856 I went to Virginia . . . In 1863 in Virginia they were as plenty as ever. In 1865 I was here [Brownsville] and that fall a few came in scattering flocks and I was ready for them. In 1866 there were more than in '65, in '67 more still, though not in the overwhelming numbers, and we feared their extermination then. Thence till '81, while there were every year more or less to be killed easily, we saw them no more in droves. That year they came for the last time, and as though to take our farewell shot, every one, black and white, turned out and the slaughter was fearful, and months after they left, the wounded could be found . . . and I heard and believe that in isolated cases they nested in our bottoms—the only cases I heard of here in my day, though the negroes told me of the time they used to nest here — as near as I could guess, in the '40s."

Genus **ZENAIDURA** Bonaparte.

63. *Zenaidura macroura* (L.). Mourning Dove.

Very abundant everywhere, except in the mountains, where it becomes rare at 3,000 feet elevation.

Genus **COLUMBIGALLINA** Boie.

64. *Columbigallina passerina terrestris* (Chapm.). Ground Dove.

I was greatly surprised while walking along the road from Harri-

man to Kingston, about a half mile from the former town, to see a Ground Dove stepping along only fifty feet ahead of me. It flew into a tree by the roadside, and as I approached, flew away entirely out of sight.

The small size and square cut tail, to say nothing of its color, so positively showed it to be this species that I have little hesitation in including it here. Had I not formerly made the acquaintance of this bird in Florida, and become aware of its having been taken in the District of Columbia and at Locke, Michigan, this occurrence would have been passed over as a case of mistaken identity. There is no probability that the Ground Dove is more than a straggler across the eastern confines of the Appalachian system at this latitude. It is more probable this bird came directly north from Georgia or Alabama than from the Carolinas, and its casual occurrence in Southwestern Tennessee would be far less extraordinary than the one just recorded.

Order RAPTORES.

Family CATHARTIDÆ.

Genus CATHARTES Illiger.

65. *Cathartes aura* (L.). Turkey Vulture.

I saw this useful and conspicuous bird wherever I remained long enough to make any records. It was seen above Roan Mountain. They breed in great numbers along the east escarpment of the Cumberland Plateau.

Genus CATHARISTA Vieillot.

66. *Catharista atrata* (Bartr.) Black Vulture.

The abundance of this species all over the State was a surprise to me. It was not found, however, east of the Tennessee Valley, but was observed at nearly every other station. It was nearly always in company with the Turkey Vulture in the proportion of one *atrata* to three *aura*, and they were evidently nesting together along the rocky cliffs east of Sawyer's Springs which overlook the wide valley of East Tennessee. Fox records them in flocks in Roane County. Monroe County, "breeds," Lemoyne. "Breeds in the Forked Deer bottom, 10 miles N. E. of" Brownsville, B. C. Miles. Lookout Mountain, "breeds," Fox.

Family FALCONIDÆ.**Genus ELANOIDES** Vieillot.

67. *Elanoides forficatus* (L.). Swallow-tailed Kite.

Wilson's is the first and only Tennessee record for this Kite that I can discover. In the American Ornithology he says (Vol. VI, 1812, p. 70); "I met these birds, in the early part of May at a place called Duck Creek, in Tennessee."

From the known course of his route, this was in Hickman County, about forty miles east of the Tennessee River, in the Duck River bottoms near the east boundary of Maury County. The Swallow-tailed Kite is likely to be found anywhere in west Tennessee in summer, where the bottom lands afford it congenial surroundings and good nesting sites.

Of this species Mr. Miles writes: "I think I killed one fifteen years since, and have seen one since, though very rare."

Genus ELANUS Savigny.

68. *Elanus leucurus* (Vieill.). White-tailed Kite.

Haywood and Lauderdale Counties; B. C. Miles. See note for next species.

Genus ICTINIA Vieillot.

69. *Ictinia mississippiensis* (Wils.). Mississippi Kite.

A Kite, whose appearance most closely resembled this species, was seen soaring for a long time over a meadow near Raleigh. From its actions I judged it to have a nest in the neighborhood. Mr. Miles refers to this and the preceding species as follows: "Of the hawk we call the Blue Darter we have two, one marked as you describe [*Elanus leucurus*] and one noticeably darker [*Ictinia mississippiensis*] have thought heretofore they were the sexes."

Genus CIRCUS Lacépède.

70. *Circus hudsonius* (L.). Marsh Hawk.

Single individuals seen at Samburg, Raleigh, Bellevue and Hariman. Messrs. Fox and Langdon do not record it.

Genus ACCIPITER Brisson

71. *Accipiter velox* (Wils.). Sharp-shinned Hawk.

Noted by Lemoyne along the Smoky Mountain range, where he found it "not common."

Genus BUTEO Cuvier.

72. *Buteo borealis* (Gmel.). Red-tailed Hawk.

73. *Buteo lineatus* (Gmel.). Red-shouldered Hawk.

My records of these are too confused to separate them. Both species however were seen and identified both alive and stuffed.

Western records of *borealis* were made on hearing their notes, but I afterwards found that the jays of that region imitated these with such exactness that I could not rely on the records I had previously made.

Both of these hawks are rare summer residents in the parts visited by me.

74. *Buteo latissimus* (Wils.). Broad-winged Hawk.

In east Tennessee this is the most abundant hawk, especially so among the mountains, where I found it at the loftiest elevations.

Genus AQUILA Brisson.

75. *Aquila chrysaetos* (L.). Golden Eagle.

This eagle is occasionally seen at Roan Mountain, in which neighborhood they are resident.

Set of eggs and nesting birds taken on Bald Mountain (Blount County); Lemoyne.

Genus HALIÆTUS Savigny.

76. *Haliæetus leucocephalus* (L.). Bald Eagle.

Several mounted skins were noted. It is said to breed at Samburg. I think I saw one from the top of Roan Mountain. Saw one in a cage at Union City.

Genus FALCO Linnæus.

77. *Falco peregrinus anatum* (Bonap.). Duck Hawk.

While watching a flock of vultures circle about me on the cliffs near Sawyer's Springs a Duck Hawk suddenly dashed among them with a shrill scream and in a few moments had scattered them far away over the valley. It then returned to its eyrie near the cascade of Falling Water. Breeding in the Great Smoky Mountains, Lemoyne.

78. *Falco sparverius* L. Sparrow Hawk.

Noted at Samburg, Raleigh, Bellevue and Chattanooga, and at intermediate points along the railroad lines. Not as common as in the Middle States. Not seen in the mountains, but noted there by Fox and Langdon and Lemoyne, the latter stating it is rare.

Genus PANDION.

79. *Pandion haliaetus carolinensis* (Gmel.). American Osprey.

Seen in Roan County in April by Fox. I did not see it at Samburg but the fishermen there spoke of it. Great Smoky Range, Lemoyne.

Family STRIGIDÆ.**Genus STRIX** Linnæus.

80. *Strix pratincta* Bonap. Barn Owl.

A pair of these in captivity were examined at Union City.

Genus SYRNIUM Savigny.

81. *Syrnium nebulosum* (Forst.). Barred Owl.

The unmistakable call of this owl was heard at Samburg, Raleigh and Bellevue. Breeding at base of Bald Mountain (Blount County); common at all altitudes in the Smokies; Lemoyne.

Genus MEGASCOPS Kaup.

82. *Megascops asio* (L.). Screech Owl.

Mounted specimens were the only ocular proof I had of the presence of this bird in Tennessee. I did not even hear one during the entire trip, but was assured of their being common enough for the every day needs of the more superstitious natives. Chilhowee Mountains; Langdon. Roane County; Fox. Not common in the Great Smoky Mountains; Lemoyne.

Genus BUBO Duméril.

83. *Bubo virginianus* (Gmel.). Great Horned Owl.

Noted from Samburg, Raleigh and Sawyer's Springs and mounted specimens examined. Langdon noted it at 4,000 feet in the mountains. The most common owl in the Smokies; Lemoyne.

Order PSITTACI.**Family PSITTACIDÆ.****Genus CONURUS** Kuhl.

84. *Conurus carolinensis* (L.). Carolina Paroquet.

The first notice of this bird in Tennessee was made by Alexander Wilson in a letter written to Alexander Lawson, dated April 20th, 1810, in which he states: "As I entered the State of Tennessee, the face of the country became hilly and even mountainous. After

descending an immense declivity and coursing along the rich valley of Mansker's Creek, where I again met with large flocks of paroquets, I stopped at a small tavern," etc. This was during his trip from Lexington to Natchez. Again in his journal, dated April 25th of the same year, is the following entry:—"Breakfasted at Walton's, thirteen miles from Nashville. This place is a fine, rich hollow, watered by a charming, clear creek, that never fails. Went up to Madison's Lick, where I shot three paroquets and some small birds."

Mansker's Creek was north of Nashville, probably in Robertson County. Madison's Lick is in the Cumberland Valley, Davidson County. These records were not published until 1828, when George Ord issued a more complete edition of his "Sketch" of Wilson, containing many letters not in the first edition and among them the one to Lawson containing the above notes.

In his Ornithology (1811) Wilson (Vol. III, p. 91) gives Madison's Lick as the first place in Tennessee in which he saw Parrots, and continues: "In passing on I next met with them on the banks and rich flats of the Tennessee River;" The latter region, however, is the debatable one of the old "Natchez Trace" road which here crossed the Tennessee line in the southwest corner of Wayne County and the northwestern corner of Lauderdale County. Alabama and thence south into Tishomingo County, Mississippi, It is not unlikely that he saw paroquets in all of these counties; certainly at least, in Alabama, a fact overlooked by Hasbrouck in his paper in the Auk on this bird.

From what is known of the breeding habits, of the Carolina Paroquet in other localities there is no doubt that it was a summer resident in the river bottoms of west Tennessee in Wilson's day.

Mr. Miles communicates the following valuable note on the Paroquet in a recent letter:—"In the early 50's a flock of Paroquets came to our orchard [near Brownsville] and we chased them out and killed them with sticks and apples; saw a flock at Ashport [Lauderdale County] on the Mississippi River 100 in number in 1874, and saw one killed alone, within five miles of this [Brownsville] in 1876—the last I have ever heard of."

Order COCCYGES.

Family CUCULIDÆ.

Genus COCCYZUS Vieillot.

85. *Coccyzus americanus* (L.). Yellow-billed Cuckoo.

86. *Coccyzus erythrophthalmus* (Wils.). Black-billed Cuckoo.

Cuckoos were noted at all points visited, except the top of Roan Mountain. From the character of their notes, (by which alone the Black-billed species was identified) I judge there were five times as many of the former as of the latter. It is probable, however, that the Black-billed Cuckoo is much less noisy and hence less often observed. Dr. Merriam records, "*Coccyzus*. Heard several times;" at Athens. Fox and Langdon make no mention of either species.

Family ALCEDINIDÆ.

Genus CERYLE Boie.

87. *Ceryle alcyon* (L.). Belted Kingfisher.

A common summer resident at all collecting stations except on the tops of the higher mountains. Not seen at Allardt or Sawyer's Springs, but going up the escarpment, they were noted nearly to the plateau. Langdon found them in the coves of Little River. I did not see any above 4,000 feet on Roan Mountain.

Order PICI.

Family PICIDÆ.

Genus DRYOBATES Boie.

88. *Dryobates villosus* (L.). Hairy Woodpecker.

A common bird all across the State, from high mountain top to the Mississippi bottoms. Typical *villosus* is undoubtedly the high mountain form of the Great Smoky Range. It is so identified by Mr. Ridgway from Langdon's Chilhowee specimens.

89. *Dryobates villosus auduboni* (Swains.). Southern Hairy Woodpecker.

Mr. Ridgway identified Fox's Roane County specimens with this form.

It is likely that the Hairy Woodpeckers at Memphis and Samburg will be found to be more typical of it.

90. *Dryobates pubescens* (L.). Downy Woodpecker.

Equally abundant and with the same distribution over the entire State as the preceding, except in the higher elevations, where it is less numerous than *villosus*.

91. **Dryobates borealis* (Vieill.). Red-cockaded Woodpecker.

This bird was found breeding on the Cumberland plateau at Allardt and on the route from Allardt to Rugby Road in Morgan and Scott Counties. I did not see it elsewhere. Two specimens were secured. At Allardt the nests were excavated at a height of thirty or forty feet in living pine trees. The young were nearly fledged at that date, June 8th. Fox calls it a rare bird at Rockwood, in spring, where he took a specimen April 22nd.

Genus **SPHYRAPICUS** Baird.

92. *Sphyrapicus varius* (L.). Yellow-bellied Sapsucker.

A pair were seen along Doe River, Roan Mountain, at an elevation of about 4,000 feet. They acted as if they had a nest near by.

Fox records them as "not very common" in spring in Roan County. These were probably migrants. It is doubtful if any breed in the Cumberland Mountains of Tennessee. Langdon did not find them.

Genus **CEOPHLEUS** Cabanis.

93. *Ceophlœus pileatus* (L.). Pileated Woodpecker.

Seen or heard at Samburg, Raleigh, Bellevue, Harriman, Allardt and Greeneville. Reported by both Fox and Langdon. It is found on Roan Mountain. Little Tennessee Valley; Merriam.

Genus **MELANERPES** Swainson.

94. *Melanerpes erythrocephalus* (L.). Red-headed Woodpecker.

Very abundant in west and middle Tennessee, but rare at higher altitudes in the east. I recorded it at Samburg, Raleigh, Bellevue, Chattanooga, Harriman and Allardt. Fox records one spring example; Langdon says it is "common about clearings in the foot-hills" of the Chilhowee Mountains, but not found above 1,500 feet. Abundant at Athens, Merriam.

95. **Melanerpes carolinus* (L.). Red-bellied Woodpecker.

Very abundant at Samburg and Raleigh. Several seen at Bellevue, Chattanooga, Sawyer's Springs and Harriman. Fox says it was "rather common" in April, 1885, at Rockwood.

Genus **COLAPTES** Swainson.

95. *Colaptes auratus* (L.). Flicker.

Nowhere did I find this bird as abundant as in the Middle States, but it was seen in all localities, from river bottom to moun-

tain peak, being one of the few lowland birds which makes its home at Cloudland.

I am unable to include among the Woodpeckers of Tennessee the Ivory-billed, *Campephilus principalis*, owing to absence of any records. Mr. Hasbrouck (l.c.) refers to it thus: "For Tennessee no records have been found, although it would seem highly probable that the bird occurs in the bottom lands bordering the Mississippi especially when we consider the records from Fulton County, Kentucky . . . and also those directly south in Louisiana and west in Arkansas."

Order MACROCHIRES.

Family CAPRIMULGIDÆ.

Genus ANTROSTOMUS Gould.

97. *Antrostomus carolinensis* (Gmel.). Chuck-will's widow.

Heard several every night of my stay at Raleigh. The Whippoorwill was not heard there. Fox doubtfully refers a Goatsucker seen near Rockwood to this species. Wilson first encountered this bird on the banks of the Cumberland near Nashville, in his journey from Lexington to Natchez.

97. *Antrostomus vociferus* (Wils.). Whippoorwill.

I have records of this species from Samburg, Bellevue, Chattanooga and Allardt. At the last mentioned place it was very numerous. Other observers do not mention it.

Genus CHORDEILES Swainson.

98. **Chordeiles virginianus* (Gmel.). Nighthawk.

This bird was noted in the lowlands all across the State but not in the mountains. Fox, Langdon and Merriam record it from their respective stations, Langdon having seen it on Scott Mountain.

It is likely that subspecies *henryi* will be taken in west Tennessee, as it has been in Illinois.

Family MICROPODIDÆ.

Genus CHÆTURA Stephens.

99. *Chætura pelagica* (L.). Chimney Swift.

Found everywhere. Nesting in chimneys of Cloudland Hotel.

Family TROCHILIDÆ.**Genus TROCHILUS** Linnæus.

100. *Trochilus colubris* (L.). Ruby-throated Humming-bird.

Not seen on top of Roan Mountain, but up to a high altitude, say 4,500 to 5,000 feet. Elsewhere in Tennessee it is a cosmopolite. Langdon limits it to 3,000 feet in the Chilhowee regions.

Order PASSERES.**Family TYRANNIDÆ.****Genus TYRANNUS** Cuvier.

101. *Tyrannus tyrannus* (L.). King Bird.

The only locality where this abundant summer resident was not seen was among the higher reaches of Roan Mountain. Not seen, but probably found, at Roan Mountain Station. Langdon did not find it above the "coves."

Genus MYIARCHUS Cabanis.

102. *Myiarchus crinitus* (L.). Crested Fly-catcher.

My notes say "everywhere" for this flycatcher. The only possible exception to this is the summit of Roan Mountain. It comes up some distance into the fir belt, nevertheless. Strange to say, Langdon does not mention it, nor is it recorded by Dr. Merriam. It is abundant in west and middle districts.

Genus SAYORNIS Bonaparte.

103. *Sayornis phœbe* (Lath.). Phœbe.

Not observed west of the valley of east Tennessee. Recorded first at Chattanooga, also at Sawyer's Springs, Harriman, Allardt, Johnson City and Roan Mountain Station. At Rockwood; "common," Fox. Athens, "not common;" Merriam. Not given by Langdon. I saw very few anywhere.

Genus CONTOPUS Cabanis.

104. *Contopus borealis* (Swains.). Olive-sided Flycatcher.

Passing down Rock Creek valley on the northwest side of Roan Mountain I heard the weird, striking cry of this species and my search was soon rewarded by seeing the bird catching insects from the top of a lofty dead hemlock along the roadside. The place was a narrow cove and the altitude about 4,000 feet. About two miles

from this spot on the cross road to the Doe River valley I found another in a similar environment. This flycatcher was found in the mountains of western North Carolina by Mr. Brewster but is not given in previous Tennessee records. It is a rare summer resident in this region.

105. *Contopus virens* (L.). Wood Pewee.

This flycatcher was found all over the state, including the mountains, up to the fir belt.

Genus **EMPIDONAX** Cabanis.

106. *Empidonax aodicius* (Gmel.). Acadian Flycatcher.

The absence of all members of this genus from the lists of Fox and Langdon is a surprise to me, as I found the Acadian everywhere below 3,500 over the entire state. It was abundant in west and middle Tennessee. Dr. Merriam lists it as common near Athens ; also giving it in his list of Little Tennessee birds.

107. **Empidonax pusillus traillii* (Aud.). Traill's Flycatcher.

A male, in full song, was shot near Bellevue. It was undoubtedly a migrant.

108. *Empidonax minimus* (Baird). Least Flycatcher.

As a migrant, I saw this species at Samburg and Raleigh. It breeds at Roan Mountain Station and thence up the Doe River Valley to near the limit of deciduous trees, say 4,500 feet.

Family **CORVIDÆ**.

Genus **CYANOCITTA** Strickland.

109. *Cyanocitta cristata* (L.). Blue Jay.

Everywhere present, but much more abundant in the lowlands, especially in the Mississippi bottoms. I did not see it on the summit of Roan Mountain but it probably reaches that elevation as a straggler. Langdon sets the limit at 4,000 feet in the Chilhowee Mountains.

Genus **CORVUS** Linnæus.

110. *Corvus corax sinuatus* (Wagl.). Mexican Raven.

Pairs noted around the top of Roan Mountain. Fox observed them near Rockwood. Specimens of the Allegheny Mountain Raven show that it is intermediate between the Arctic and Mexican forms. Lookout Mountain, "common," Fox.

111. *Corvus americanus* (Aud.). American Crow.

The Crow was not abundant but everywhere represented, except in the evergreen mountain belt. Langdon did not find it above 3,000 feet, but it attains a much greater elevation.

Family ICTERIDÆ.**Genus DOLICHONYX Swainson.****112. *Dolichonyx oryzivorus* (L.). Bobolink.**

Abundant as a migrant at Samburg and Raleigh. Also seen at Bellevue and Chattanooga but I have no evidence that they breed in those localities other than the late date of their presence there.

Genus MOLOTHRUS Swainson.**113. *Molothrus ater* (Bodd.). Cow-bird.**

Noted at Samburg and, questionably at Raleigh. I should say this species was rare in summer in Tennessee. Fox says it is not common in Roane County.

Genus AGELAIUS Vieillot.**114. *Agelaius phœniceus* (L.). Red-winged Blackbird.**

Breeding all over the state, but less abundant than in the Middle States. I did not observe it on Roan Mountain, nor does Langdon record it.

Genus STURNELLA Vieillot.**115. *Sturnella magna* (L.). Meadowlark.**

Distribution same as with the preceding species, but more uniformly abundant. It was noted around Roan Mountain Station.

Genus ICTERUS Brisson.**116. *Icterus spurius* (L.). Orchard Oriole.****117. *Icterus galbula* (L.). Baltimore Oriole.**

Both species abundant and with the same distribution all over the state, except above 3,500 to 4,000 feet in the Smoky Mountains.

Of the two, the Baltimore was the most abundant, more numerous, indeed, than I ever saw it elsewhere in the United States.

Genus SCOLECOPHAGUS Swainson.**118. *Scolecophagus carolinus* (Müll.). Rusty Blackbird.**

Migrating in flocks with Cow-birds and Redwings at Samburg. Rockwood, Fox.

Genus QUISCALUS Vieillot.**119. Quiscalus quiscula (L.).** Purple Grackle.

Admitted on evidence of nine specimens procured by Dr. Fox in Roane County and identified by Mr. Ridgway, who states (footnote) that this appears to be the prevailing form in east Tennessee.

I observed Grackles at Chattanooga, Harriman, Knoxville, Greeneville and Johnson City, but none were secured. Found at Athens, Merriam.

120. *Quiscalus quiscula æneus (Baird). Bronzed Grackle.

Four breeding birds shot at Samburg are typical *æneus*. In the absence of contrary evidence, the Grackles noted at Raleigh and Bellevue are likewise referable to this form.

Reelfoot Lake, with its ruined, half-submerged forest of decaying trees affords ideal building sites for a large colony of these birds. In that locality they appear to invariably select a cavity (either natural, or one made by woodpeckers) in dead trees standing in deep water, in which to rear their young. Some of these are at a great elevation, others were found in stubs only ten feet high. Two specimens of this race were taken by Dr. Fox near Rockwood.

Family FRINGILLIDÆ.**Genus CARPODACUS** Kaup.**121. Carpodacus purpureus (Gmel.).** Purple Finch.

The only record known to me is that of Dr. Fox who secured specimens in March in Roane County. I had expected to find it on Roan Mountain but none were met with.

Genus LOXIA Linnæus.**122. Loxia curvirostra minor (Brehm.).** American Crossbill.

The peculiar flight notes of this species were heard near the summit of Roan Mountain, where it undoubtedly breeds.

Genus ACANTHIS Bechstein.**123. Acanthis linaria (L.).** Redpoll.

Mr. Miles records, January 9, 1884, large numbers of Redpolls in his yard ten miles north of Brownsville. Two or three were seen on another occasion.

Genus SPINUS Koch.**124. Spinus tristis (L.).** American Goldfinch.

My notes show this bird was seen all along the route from Samburg up to about 3,500 feet on Roan Mountain.

Genus **PASSER** Brisson.

125. *Passer domesticus* (L.). European House Sparrow.

Abounding in all larger towns and villages and their suburbs.

Genus **POOCÆTES** Baird.

126. *Poocætes gramineus* (Gmel.). Vesper Sparrow.

Not seen west of Johnson City, where I found it breeding, but not abundantly. Fox notes it in April in Roane County but I did not find it breeding there.

Genus **AMMODRAMUS** Swainson.

127. *Ammodramus sandwichensis savanna* (Wils.). Savanna Sparrow.

Fox's record of this species in Roane County during March is the only one known to me.

128. *Ammodramus savannarum passerinus* (Wils.). Grasshopper Sparrow.

Found at Samburg, Raleigh, Bellevue, Chattanooga, Knoxville, Greeneville and Johnson City; certainly resident at the five latter places in summer. Not found by Langdon or myself in the Great Smoky Range.

129. *Ammodramus henslowii* (Aud.). Henslow's Sparrow.

Two specimens (March and April), taken in Roane County by Fox.

Genus **CHONDESTES** Swainson.

130. **Chondestes grammacus* (Say.). Lark Sparrow.

A flock, probably migrant, was seen in a field near Samburg. One of these was secured. A singing male gave me an unsuccessful chase over the fields near Raleigh, and a pair, evidently mated, were found near Bellevue, the male becoming a sacrifice to science.

It appears to be rather rare in any part of the state. Other observers do not list it.

Genus **ZONOTRICHIA** Swainson.

131. *Zonotrichia leucophrys* (Forst.). White-crowned Sparrow.

Numerous at Samburg, Raleigh and Bellevue. At the latter place it was seen as late as May 22nd.

132. *Zonotrichia albicollis* (Gmel.). White-throated Sparrow.

Several seen at Samburg and Bellevue. Roane County, March and April; Fox. Not known to breed.

Genus SPIZELLA Bonaparte.**133. *Spizella socialis* (Wils.).** Chipping Sparrow.

With the exception of the summit of Roan Mountain, this bird was always present in my rambles through Tennessee. Langdon found it up to 4,000 feet in the mountains.

134. *Spizella pusilla* (Wils.). Field Sparrow.

The remarks for *socialis* equally apply to this species.

Genus JUNCO Wagler.**135. *Junco hyemalis* (L.).** Slate-colored Junco.

The birds referred to by Fox, the last of which were seen April 16th, around Rockwood, have been identified with this migrant northern form.

136. **Junco hyemalis carolinensis* (Brewst.). Carolina Junco.

Abundant on Roan Mountain in the fir belt. One heard singing in the upper deciduous belt at about 4,500 feet. Eleven specimens, including four half-fledged young, were taken.

Genus PEUCEA Audubon.**137. **Peucea aestivalis bachmani* (Aud.).** Bachman's Sparrow.

Breeding numerous on the plateau in the parts of Fentress, Scott and Morgan Counties traversed on the trip from Sunbright to Allardt and returning to Rugby Road. Also noted near Sawyer's Springs. Three specimens were taken at Allardt. Fox found it in April in Roane County and on Lookout Mountain.

Genus MELOSPIZA Baird.**138. *Melospiza fasciata* (Gmel.).** Song Sparrow.

The absence of this homelike bird from the woodlands and door-yards of West and Middle Tennessee was not only a source of surprise, but of much regret, to me. Never before had I traveled so long out of sight and hearing of some representative of the Song Sparrow in my North American wanderings.

A few were seen at Johnson City. They became numerous at Roan Mountain Station and were seen thence along the Doe River to an elevation of 3,500 feet. As a migrant, Fox notes them as late as April 17th in Roane County, after which date they disappeared.

139. *Melospiza georgiana* (Lath.). Swamp Sparrow.

This bird escaped me, but is almost sure to be found breeding

along the foothills of the Great Smoky Range. It is included here on the authority of Dr. Fox, who found it abundant in Roane County during April. That it breeds there is doubtful.

140. **Melospiza lincolni* (Aud.). Lincoln's Finch.

This bird was migrating during my stay in West Tennessee. Several were seen near Samburg and Raleigh. It was also observed at Bellevue. A male shot at Raleigh was very fat.

Genus **PASSERELLA** Swainson.

141. *Passerella iliaca* (Merr.). Fox Sparrow.

Not seen. Taken in spring migration in Roane County.; Fox.

Genus **PIPILO** Vieillot.

142. *Pipilo erythrophthalmus* (L.). Towhee.

Not seen in West Tennessee; not common in the middle districts. Records at Bellevue, Chattanooga, Harriman, Allardt, Knoxville, Johnson City and Roan Mountain Station. Rare at latter station, which is its highest limit in the mountains. Taken at Athens; common; Merriam; and at 2,000 feet in Chilhowee Mountains, Langdon.

Genus **CARDINALIS** Bonaparte.

143. *Cardinalis cardinalis* (L.). Cardinal.

Very abundant everywhere, up to nearly 4,000 feet in the mountains.

Genus **HABIA** Reichenbach.

144. *Habia ludoviciana* (L.). Rose-breasted Grosbeak.

Migrating at Samburg, Raleigh and Bellevue. Seen at Chattanooga and Sawyer's Springs. Breeds at Johnson City and thence up to the fir belt of Roan Mountain, 4,800 feet.

It may be a rare breeder in the Cumberland Mountains, but I have no proof of it.

145. *Passerina cyanea* (L.). Indigo Bunting.

Very abundant over my entire route, and one of the few low-land birds that breed at the summit of Roan Mountain.

146. **Spiza americana* (Gmel.). Dickcissel.

Abundant in all cultivated uplands, from the Mississippi River to the western escarpment of the Cumberland Plateau. Sparsely straggling along the Tennessee Valley to Chattanooga, where one was heard singing. Not seen at Knoxville. Four specimens taken.

Family TANAGRIDÆ.**Genus PIRANGA** Vieillot.

147. *Piranga erythromelas* (Vieill.). Scarlet Tanager.

Over the entire State, and in the mountains up to 4,000 feet. More abundant in East Tennessee.

148. **Piranga rubra* (L.). Summer Tanager.

Noted at all visited localities, up to 2,500 feet. More abundant in west and middle districts.

Family HIRUNDINIDÆ.**Genus PROGNE** Boie.

149. *Progne subis* (L.). Purple Martin.

Numerous everywhere except on the mountains. Not seen at Sawyer's Springs, but at Allardt I saw some. Not seen at Roan Mountain Station.

Genus PETROCHELIDON Cabanis.

150. *Petrochelidon lunifrons* (Say). Cliff Swallow.

Noted at Raleigh, Bellevue, Harriman and Johnson City. Not elsewhere recorded nor by other observers.

Genus CHELIDON Forster.

151. *Chelidon erythrogaster* (Bodd.). Barn Swallow.

Not abundant. Seen at Raleigh, Bellevue, Chattanooga, Knoxville, Greeneville and Johnson City. Athens; Merriam. Rockwood; Fox.

Genus TACHYCINETA Cabanis.

152. *Tachycineta bicolor* (Vieill.). White-bellied Swallow.

Rarely seen in any numbers, but with much the same apparent distribution as the preceding species.

Genus CLIVICOLA Forster.

153. *Clivicola riparia* (L.). Bank Swallow.

Breeds abundantly along the Mississippi bluffs. Noted all across the State, but at times, perhaps, confounded with the next species.

Genus STELGIDOPTERYX Baird.

154. *Stelgidopteryx serripennis* (Aud.). Rough-winged Swallow.

From Samburg to Johnson City. Abundant everywhere.

Family AMPELIDÆ.**Genus AMPELIS** Linnæus.

155. *Apelis cedrorum* (Vieill.). Cedar Waxwing.

Quite universal in its State distribution. I did not find it on the summit, but far up Roan Mountain. Langdon took a young one as high as 3,000 feet.

Family LANIDÆ.**Genus LANIUS** Linnæus.

156. *Lanius ludovicianus* (L.). Loggerhead Shrike.

Observed at Samburg and Raleigh, and breeding between the latter place and Memphis. Roane County, March 18th and 20th; Fox.

Family VIREONIDÆ.**Genus VIREO** Vieillot.

157. *Vireo olivaceus* (L.). Red-eyed Vireo.

Abounding in all localities visited, up to the fir-belt of Roan Mountain.

158. *Vireo gilvus* (Vieill.). Warbling Vireo.

Several noted at all stops between Samburg and Johnson City, inclusive. No other observer records them from Tennessee.

159. *Vireo flavifrons* (Vieill.). Yellow-throated Vireo.

Same distribution as last. Pine Mountain at 1,500 feet; Langdon. Abundant.

160. *Vireo solitarius* (Wils.). Blue-headed Vireo.

Taken by Fox in Roane County (April 15th and 17th), during migration.

161. *Vireo solitarius alticola* (Brewst.). Mountain Solitary Vireo.

A few heard on Roan Mountain, from just below fir belt down to 3,000 feet. Owing to their preference for the highest tree tops I was unable to shoot any specimens with my cane-gun.

Specimens taken by Langdon on Pine and Defeat Mountains were pronounced to be typical of this race by Mr. Brewster. Lemoyne took specimens in Blount and Monroe Counties, which he thinks referable to both forms. As he gives no date for the one from Monroe County, which he calls *solitarius*, one may infer that it was only a migrant.

162. *Vireo noveboracensis* (Gmel.). White-eyed Vireo.

Seen at all points between Roan Mountain Station and Samburg,

inclusive. An abundant species everywhere. Chilhowee Mountains; Langdon.

Family **MNIOTILTIDÆ**.

Genus **MNIOTILTA** Vieillot.

163. *Mniotilta varia* (L.). Black and White Warbler.

An abundant summer resident, with the same distribution as the White-eyed Vireo, but ranging higher on Roan Mountain, viz., up to 3,500 feet. Chilhowee Mountains, 3,000 feet, Langdon.

Genus **PROTONOTARIA** Baird.

164. **Protonotaria citrea* (Bodd.). Prothonotary Warbler.

Abounding in the Mississippi Bottoms and along the nearer tributaries. Probably found nearly across west Tennessee. Breeding at Samburg, Memphis and Raleigh. Five specimens preserved and a set of eggs.

Genus **HELINAIA** Audubon.

165. **Helinaia swainsonii* (Aud.). Swainson's Warbler.

Several heard and a few seen in the cane bottoms of Wolf River near Raleigh, where it was breeding. Two males, after the most persistent and tiresome stalking, were brought down. From the nature of the swamps and bayous of the Tennessee River it may be safely predicted that this bird will be found in nearly every county between its western valley and the Mississippi.

Genus **HELMITHERUS** Rafinesque.

166. *Helmitherus vermivorus* (Gmel.). Worm-eating Warbler.

Migrants noted at Samburg and Raleigh. Did not see it in the east, but Langdon notes it in Blount County up to 4,000 feet, breeding in the mountains. Fox's records for Roane County were made during April.

Genus **HELMINTHOPHILA** Ridgway.

167. *Helminthophila pinus* (L.). Blue-winged Warbler.

I saw this bird at Raleigh and thence eastward across the State to, and including, Knoxville. It was not abundant anywhere.

168. *Helminthophila chrysoptera* (L.). Golden-winged Warbler.

Breeding at Sawyer's Springs, Harriman and Allardt. Also noted at Knoxville. Not common. Monroe, Blount, Cooke and Roane Counties; Lemoyne.

169. *Helminthophila ruficapilla* (Wils.). Nashville Warbler.

Alexander Wilson secured the types of this species near Nashville. It was migrating at Samburg and Raleigh during my stay.

170. *Helminthophila peregrina* (Wils.). Tennessee Warbler.

Migrating through Samburg, Raleigh and Bellevue. Wilson's types of this bird came from the banks of the Cumberland River, probably not far from Nashville.

Genus **COMPSOTHTYPIS** Cabanis.

171. *Compsothlypis americana* (L.). Parula Warbler.

Breeding abundantly at every locality except above 4,000 feet in the mountains.

Genus **DENDROICA** Gray.

172. *Dendroica æstiva* (Gmel.). Yellow Warbler.

Not seen in west Tennessee; a few seen at Nashville. Numerous in east Tennessee up the mountains, to about 3,500 feet. On the plateau at Allardt.

173. *Dendroica cærulescens* (Gmel.). Black-throated Blue Warbler.

Common from 3,500 to 4,500 feet on Roan Mountain. Head of Little River, 4,000 feet, Langdon. Roane County, 4,300 feet (?); May 16th, Lemoyne.

174. *Dendroica coronata* (L.). Myrtle Warbler.

Fox says this bird was common near the Tennessee River until the last of April.

175. **Dendroica maculosa* (Gmel.). Magnolia Warbler.

Seen migrating at Samburg and Raleigh, where one specimen was shot.

176. *Dendroica cærulea* (Wils.). Cerulean Warbler.

Breeding at Samburg, Raleigh and Bellevue. Not certainly identified elsewhere. Three specimens taken at Raleigh. Langdon found them "common" in spruce forests at the head of Little River, 4,000 feet.

177. *Dendroica pensylvanica* (L.). Chestnut-sided Warbler.

Breeding on Roan Mountain, 3,500 to 4,000 feet. From 2,000 to 2,500 feet "in oak woods;" Langdon.

178. *Dendroica striata* (Forst.). Black-poll Warbler.

An abundant migrant at Samburg and Raleigh and a few seen at Bellevue.

179. *Dendroica blackburniæ* (Gmel.). Blackburnian Warbler.

Migrant at Samburg, Raleigh and Bellevue. Breeding on Roan Mountain. Rockwood in April, Fox. Langdon found it the "most abundant species of its family" between 2,000 to 4,000 feet in the Chilhowee Mountains. One specimen at Raleigh. Walden's Ridge, Roane County, 4,000 feet; breeding, Lemoyne.

180. **Dendroica dominica albilora* (Baird.) Sycamore Warbler.

Records for Bellevue, Harriman, Allardt, Knoxville, Greeneville and Johnson City. Two specimens taken. Breeding at all points noted. Roane County; Fox. Athens; Merriam.

181. *Dendroica virens* (Gmel.). Black-throated Green Warbler.

Found all across the State; but only as a migrant west of the Cumberland Plateau. Breeding at Sawyer's Springs, Harriman, Allardt, Knoxville, Johnson City, and thence up Roan Mountain to 3,000 feet or more. Spruce woods, 4,000 feet; Langdon. Lookout Mountain, Fox.

182. *Dendroica vigosii* (Aud.). Pine Warbler.

Listed at Raleigh, Bellevue and Allardt. Fox found them in full song March 28th, when they were "common" at Rockwood. Pine Mountain, 1,500 feet, "one specimen only," Langdon. I did not notice them on Roan Mountain. Not abundant anywhere.

183. *Dendroica discolor* (Vieill.). Prairie Warbler.

Numerous in scrub openings at all points visited between Bellevue and Knoxville, inclusive. Two specimens taken. Rockwood, "common" in April; Fox. Blount County; Lemoyne.

Genus *SEIURUS* Swainson.**184. *Seiurus aurocapillus* (L.). Oven Bird.**

I did not find the Oven-bird until I reached Chattanooga. After that it was always present, reaching all the way up to the edge of the fir belt on Roan Mountain. Langdon confines it to altitudes ranging from 1,000 to 2,000 feet. Fox found them in Roan County as early as April 15th.

185. **Seiurus motacilla* (Vieill.). Louisiana Water Thrush.

This bird is a cosmopolite summer resident in Tennessee. It is as numerous in one locality as another, and reaches some distance along the Doe River above Roan Mountain Station. It is barely possible that the birds observed in that locality were *S. noveboracensis*. Langdon fails to record any, but Fox found them common.

Genus GEOTHYLPIS Cabanis.**186. *Geothlypis formosa** (Wils.). Kentucky Warbler.

Abounding all across the State, from the Mississippi bluff to the foothills of the Great Smoky Mountains. Not seen east of Johnson City but numerous all over the Cumberland Plateau. Langdon did not see it, nor did Fox in 1885, though he records it "not common" in 1884. Nesting in Blount County; June, 1881, and seen in Monroe County; Lemoyne.

187. Geothlypis philadelphia (Wils.). Mourning Warbler.

Migrating at Samburg, Raleigh and Bellevue. Heard one singing at latter place.

188. Geothlypis trichas (L.). Maryland Yellow Throat.

Below an altitude of 3,000 feet this familiar warbler abounds throughout the State. Ridgway shows that the Mississippi Valley birds are intermediate. Those from the Memphis bottoms may be found to be closer to *occidentalis* than to our eastern bird.

Genus ICTERIA Vieillot.**189. Icteria virens** (L.). Yellow-breasted Chat.

An abundant summer resident at all points along route as far east as Johnson City. Langdon took one at the "base of Mount Nebo."

Genus SYLVANIA Nuttall.**190. *Sylvania mitrata** (Gmel.). Hooded Warbler.

This is the most thoroughly representative and evenly distributed summer warbler of Tennessee; as much at home among the cane brakes and bayous of the Mississippi as in the dark, cool ravines of the Great Smoky Mountains. It ranges up to the fir belt on Roan Mountain; "4,000 feet," Langdon. Great Smoky Mountain and Monroe County, 2,500 to 4,500 feet; Lemoyne.

191. *Sylvania pusilla (Wils.). Wilson's Warbler.

Migrating at Raleigh and Bellevue. One specimen collected at latter place.

192. Sylvania canadensis (L.). Canadian Warbler.

Migrant at Samburg and Raleigh. Breeding on Roan Mountain, 3,000 to 4,000 feet. Blount County, 2,000 feet; Langdon. Monroe County, 2,500 to 4,000 feet; Lemoyne.

Genus **SETOPHAGA** Swainson.

- 193.
- Setophaga ruticilla*
- (L.). American Redstart.

In favorable localities throughout the entire route from Samburg to Johnson City and Roan Mountain Station. That it breeds at Samburg and Raleigh is not yet proven. Langdon found it up to 2,500 feet.

Family **MOTACILLIDÆ**.

- 194.
- Anthus pennsylvanicus*
- (Lath.). American Pipit.

Recorded in spring (March) by Fox, who found it common in meadows during the last two weeks of that month. I thought I heard a flock passing over Samburg.

Family **TROGLODYTIDÆ**.Genus **MIMUS** Boie.

- 195.
- Mimus polyglottos*
- (L.). Mocking Bird.

Rather rare at Samburg, Raleigh, and Bellevue. Reported from Chattanooga. A farmer from Harriman stated they were occasionally heard there. Fox saw one near Rockwood April 6, 1885. I could get no information of them on the Cumberland table land. It is a favorite and common cagebird all over Tennessee and this perhaps, accounts for its rarity in a wild state at the present day.

Genus **GALEOSCOPTES** Cabanis.

- 196.
- Galeoscoptes carolinensis*
- (L.). Catbird.

The only "thrush" which I found in every place on the entire route. A pair were breeding near a little spring at the summit of Roan Mountain and their mewing could often be heard from the porch of Cloudland hotel. Langdon limits their wanderings in the Chilhowee range to 2,000 feet.

Genus **HARPORHYNCHUS** Cabanis.

- 197.
- Harporhynchus rufus*
- (L.). Brown Thrasher.

The Thrasher is not far behind the Cat Bird in its general distribution over the State, but it is less numerous and I did not see any above 3,000 feet on Roan Mountain.

Genus **THRYOTHORUS** Vieillot.

- 198.
- Thryothorus ludovicianus*
- (Lath.). Carolina Wren.

Very abundant everywhere except in the loftier reaches of the mountains above 3,500 to 4,000 feet.

199. *Thryothorus bewickii* (Aud.). Bewick's Wren.

Rather local, but found in every county visited. A far more entertaining singer and every way more of a genius than the House Wren, which it replaces in Tennessee.

I heard the song of this bird in a "deadening" 4,000 feet up the side of Roan Mountain.

Genus **TROGLODYTES** Vieillot.

200. *Troglodytes hiemalis* (Vieill.). Winter Wren.

A few heard in the fir belt of Roan Mountain; but none below it. It is rare even there. Langdon missed it altogether. Fox notes it in the Tennessee valley as late as April 13th. It is quite possible that the Roan Mountain birds will be found to represent a distinct race, more nearly approaching *pacificus* than *hiemalis*. No specimens have yet been taken in these regions.

Family **CERTHIIDÆ**.

Genus **CERTHIA** Linnæus.

201. *Certhia familiaris americana* (Bonap.). Brown Creeper.

A few were breeding on the summit of Roan Mountain. Seen in migration by Fox, in Roane County. Smoky Mountains in summer, in the valleys in winter; Lemoyne.

Family **PARIDÆ**.

Genus **SITTA** Linnæus.

202. *Sitta carolinensis* (Lath.). White-breasted Nuthatch.

Sparingly distributed over the State. None seen on Roan Mountain above the deciduous timber.

203. *Sitta canadensis* (L.). Red-breasted Nuthatch.

One specimen was taken in the fir belt of Roan Mountain, to which the birds seemed to be confined, one being heard near the hotel at Cloudland. Lookout Mountain, March 29th, Fox.

Genus **PARUS** Linnæus.

204. *Parus bicolor* (L.). Tufted Titmouse.

Everywhere abundant. Ranging as high as 4,000 feet on Roan Mountain.

205. *Parus atricapillus* (L.). Chickadee.

No Chickadees were seen in the balsam belt of Roan Mountain. Langdon found no specimens of this form among the mountain tit-

mice of Blount County. Lemoyne records specimens from Blount County and Great Smoky Mountain and agrees with Brewster as to the difference in song, etc., between specimens above and below 4,000 feet on these mountains.

206. *Parus atricapillus carolinensis* (Aud.). Carolina Chickadee.

Specimens from Sawyer's Springs and Raleigh are referable to the southern form. I found Chickadees abundant all over the Tennessee lowlands and up Roan Mountain to the evergreen belt. I fail to appreciate the specific distinctions accorded to the southern as contrasted with the northern Chickadee, living as I do in a region where apparent intermediates of the two are found throughout the year. Lemoyne records *carolinensis* from the valleys up to 4,000 feet in the Smoky Mountains of Monroe, Blount and Sevier Counties.

Genus **REGULUS** Cuvier.

207. *Regulus satrapa* (Licht.). Golden-crowned Kinglet.

The only record known to me is that of Fox, who found them in early spring in Roane County. It is rather surprising that neither Langdon nor myself observed them in the Smoky Mountains, for Brewster found them abundant in the Black Mountains of North Carolina.

208. *Regulus calendula* (L.). Ruby-crowned Kinglet.

Fox lists this bird as a migrant in Roane County. It was migrating through Samburg during my stay.

Genus **POLIOPTILA** Slater.

209. *Poliioptila œrulea* (L.). Blue-gray Gnatcatcher.

Breeds all across the State and in the mountains, up to 3,500 feet.

Family **TURDIDÆ**.

Genus **TURDUS** Linnæus.

210. *Turdus mustelinus* (Gmel.). Wood Thrush.

Noted at Samburg, Raleigh, Bellevue, Chattanooga, Harriman, Knoxville and Johnson City. Not on the Cumberland table land. Specimens taken by Langdon in Blount County, at 2,000 and 4,000 feet.

211. *Turdus fuscescens* (Steph.). Wilson's Thrush.

Numerous in migrations at Samburg, Raleigh and Bellevue. Breeding at Chattanooga (?) and on Roan Mountain, where it was

abundant from 3,000 to 5,000 feet. I watched a pair building in a maple on a large horizontal branch nearly forty feet from the ground; an unusual position for the nest of this bird.

212. *Turdus ustulatus swainsonii* (Cab.). Olive-backed Thrush.

Migrant at Samburg, Raleigh and Bellevue. Fox saw one April 26th, 1885, in Roane County.

213. *Turdus aonalaschkæ pallasii* (Cab.). Hermit Thrush.

Seen at Samburg. Fox found it an abundant migrant in Roane County.

Genus **MERULA** Leach.

214. *Merula migratoria* (L.). American Robin.

A rare bird in west and middle Tennessee. None seen in the Central Basin. Not abundant in east Tennessee, where it is found from the western rim of the Cumberland Mountains to the top of the Great Smoky range. It was breeding and singing in the balsams near Cloudland Hotel. Langdon did not find it in the Chilhowee Range.

Genus **SIALIA** Swainson.

215. *Sialia sialis* (L.). Bluebird.

In many parts of west and middle Tennessee the Bluebird was frequently seen. I have records of it from every place visited up to 4,000 feet on Roan Mountain. Fox found them very common in early spring. Langdon notes a few "about deadenings in the coves" of Blount County.